

76089

Page 1

N900040100

Setup Start *NS1*

Stop ***NS2***

10

10

Run Start *NR1*

Date:

Stop ***NR2***

Date:

[illegible]

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 76089***76089***

Page 2

Friday, November 04, 2011 3:05:32 PM

Item ID: D3012-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Decal
Start Date: 11/4/2011 Start Qty: 10.00 ***10*** Cust Item ID:
Required Date: 11/11/2011 Req'd Qty: 10.00 ***10*** Customer:
Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start ***NR1***
QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* Packaging Packaging	Identify as per dwg & Stock Location <u>30</u> Memo	0.00 0.00							
140 *140* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00							

11/11/09
11-11-09

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 1

Friday, November 04, 2011 3:05:36 PM

Work Order ID: 76089

76089

Parent Item: D3012-1

D3012-1

Parent Item Name: Decal

Start Date: 11/4/2011

Required Date: 11/11/2011

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP A01.04.06New IssueEC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3012-1P *D3012-1P* Decal		Purchased	No			110	Each	0.0000	1 **	10			

Pull 11/5/11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN <i>UP</i>	DRAWN BY <i>UP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>#</i>	APPROVED <i>#</i>	DRAWING NO. D3012	REV. A SHEET 1 OF 1
DATE 01.03.30		TITLE DECAL	SCALE 1:1
A	01.03.30	NEW ISSUE	

RELEASED
01.04.06 *#*

- POINT A -
SWL=300lb/136kg
DO NOT USE WITH POINT B
P/N D3012-1

D3012-1

- POINT B -
SWL=500lb/227kg
DO NOT USE WITH POINT A OR C
P/N D3012-3

D3012-3

- POINT C -
SWL=300lb/136kg
DO NOT USE WITH POINT B
P/N D3012-5

D3012-5

MATERIAL: WHITE LETTERS ON BLACK ADHESIVE BACK
MANUFACTURED FROM 3M 7 MIL MASKING FILM #8522CP

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Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO15380

Purchase Order Date 11/4/2011

PO Print Date 11/4/2011

Page Number 1 of 1

Order From :

VC-STU001

STUDIO DE LETTRAGE 2001
210 MAIN WEST
HAWKESBURY, ON K6A 2H6
CA

Contact Name

Vendor Phone

Vendor Fax

Vendor Account Nbr

613 632 5449

613 632 9491

Buyer

Requisition Nbr

Tax Resale Nbr

Terms

Currency

FOB

Brigitte Golden

10127-2607

Net 30

CAD

Destination-Collect

Ship To :

DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
	D3012-1P	Decal	11/8/2011 Yes	10.00 Each	Yours ppd	\$6.2500	\$62.50
		Special Inst:	MANUFACTURE FROM 3M 7 mil MASKING FILM P/N 8522CP				
2	D3012-3P	Decal	11/8/2011 Yes	10.00 Each	Yours ppd	\$3.7500	\$37.50
		Special Inst:	SAME AS ABOVE				
3	D3012-5P	Decal	11/8/2011 Yes	10.00 Each	Yours ppd	\$3.7500	\$37.50
		Special Inst:	SAME AS ABOVE				

PO Total:

\$137.50

Change Nbr:

1

Change Date: 11/4/2011

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required when applicable



Product & Instruction Bulletin 8522

Release I, Effective September 2008
See *Bulletin Change Summary and end of Bulletin*
This Bulletin now includes Instruction Bulletin 4.23

Scotchcal™ Changeable Opaque Imaging Media 8522

Product Description

Recommended Types of Graphics and End Uses

For Thermal Inkjet Printing

This durable, 7 mil, opaque, changeable film is optimized for use with selected thermal inkjet printers and inks. Ink dries quickly on the film. When overlaminated, it is warranted for medium term, outdoor weatherable graphics, and long term indoor graphics.

When constructed and used as described in this Bulletin, these types of graphics and end uses may be warranted by the 3M™ MCS™ Warranty. Please read the entire Bulletin for details.

- First surface images (the image is on top of the film) for opaque posters and signs, including:
 - Graphics for vans, personal vehicles, trucks and buses
 - Novelty posters
 - Retail and point-of-purchase displays
 - Information graphics such as maps and directories
 - Entertainment promotions in museums, zoos, parks, theatres, sports venues
 - Education and presentation graphics
 - Legal and courtroom exhibits
- For flat or simple curved surfaces, with or without rivets, used in vertical ($\pm 10^\circ$) applications

Limitations of End Uses

Unsuitable End Uses for This Product

3M specifically does not recommend or warrant the following uses, but please contact us to discuss your needs or recommend other products.

- Not for electronically cut individual letters and numbers
- Fleet applications in areas that use salt for winter road maintenance
- Application to non-warranted substrates, including wallboard
- Applications subjected to gasoline vapors or spills
- Application to corrugated or highly irregular surfaces or sharply raised areas
- Graphics applied to stainless steel, including stainless steel vehicles
- On flat surfaces with rivets, tenting of 4 to 10 mm around rivets may be expected; rivets may be cut around to eliminate tenting.
- Graphics made for automotive Original Equipment Manufacturers (OEM); contact 3M Automotive Division at 1-800-328-1684 for alternatives.

About Water-Based Inkjet Technology

Standard inkjet technology is water based. Water-based chemistry is susceptible to the extremes of heat and humidity. This is a factor in most product constructions on the market. Read the Fabrication, Shelf Life and Storage sections in this Bulletin. Staying in the middle of these ranges always provides optimum performance.

Compatible Products

3M Graphic Materials

For complete details about graphic construction options, recommended uses and durability, refer to the Product Bulletin for the base film or substrate (media) you are using. See **3M Related Literature** at the end of this Bulletin.

This Bulletin provides details about the base film and construction options and warranty. Additional specific information about compatible products can be found in the Product and Instruction Bulletins listed in **3M Related Literature** at the end of this bulletin.

3M Graphic Materials

For complete details about graphic construction options, recommended uses and durability, refer to the Product Bulletin for the base film or substrate (media) you are using. See **3M Related Literature** at the end of this Bulletin.

Film

- 3M™ Scotchcal™ Opaque Imaging Media 8522

Overlamine

- 3M™ Scotchcal™ Luster Overlamine 8519
- 3M™ Scotchcal™ Matte Overlamine 8520

Printers and Inks

HP Designjet Printers	HP Inks
<ul style="list-style-type: none"> • 2500CP and 2000CP • 2800CP and 3800CP • 3500CP and 3000CP • HP Designjet 5000 and 5500 	<ul style="list-style-type: none"> • Designjet CP Ink System UV (pigment-based) • Designjet CP Inkjet System (imaging ink)
<ul style="list-style-type: none"> • Z6100 	<ul style="list-style-type: none"> • HP 91 Vivera Ink System
Epson Printers	Epson Inks
<ul style="list-style-type: none"> • Stylus Pro 9500 • Stylus Pro 10000 printer • Stylus Pro 10600 printer 	<ul style="list-style-type: none"> • Archival Inks

Characteristics

These are typical values for unprocessed product; processing may change the values. Contact your 3M representative for a custom specification.

Characteristic	Description
Media	7 mil, white, opaque graphic film
Liner	Low-slippage, lay flat paper
Adhesive	Changeable, pressure sensitive
Thickness	Media with adhesive: 7.5 to 8 mil (nominal)
Warranted application substrates	See next page.
Application surfaces	Flat or simple curved surfaces, with or without rivets, used in vertical ($\pm 10^\circ$) applications (no corrugations)
Application temperature range	28° to 110°F (-2° to 43°C) (air and surface)
Removable	For up to one year; see Warranty Information

Characteristic	Description
Warranted application substrates	<p>Some substrates may "out-gas", resulting in tiny bubbles throughout the surface of the graphic. For maximum performance, be sure the substrate you select is properly cleaned and prepared as recommended by the manufacturer. See Instruction Bulletin 5.1 for additional information.</p> <ul style="list-style-type: none"> • Alodine (anodized aluminum) • Automotive panels (automotive painted steel) • Fruehauf (painted aluminum) • FRP (fiberglass reinforced plywood) • Glass • Imron® (polyurethane-painted metal panel) • Acrylic • Sintra™ board <p>Note: Use on any other substrate is strictly on a graphics manufacturer and customer test and approve basis. Test for both adhesion and removal characteristics. The plasticizer in some banner materials may migrate. This may cause the edge of the graphic to peel or lift off of the banner. For optimum performance, follow the guidelines in the section, Creating A Laminated Overlap, on page 4.</p>

Warranty Information

The warranty given in the Product Bulletin that is current at the time you purchased the film is the one that 3M will honor. **The warranties in the following table(s), given in years, are for finished graphics exposed in a vertical exposure in the United States except the Desert Southwest.** See the warranty sections following this table for additional information.

3M™ MCST™ Warranty Durability for Finished Graphics

Construction (film and overlamine on warranted substrate)	HP Printers & Inks		Epson Printers & Inks		Removal
	Outdoor	Indoor	Outdoor	Indoor	
8522/8519	3 years	5 years	2 years	5 years	1 year without chemical strippers or tools
8522/8520					

Warranty and Limited Remedy

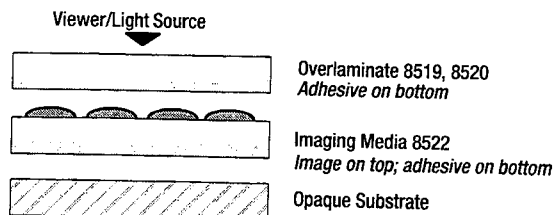
The following is made in lieu of all other express or implied warranties, including any implied warranty of **merchantability** or fitness for a particular purpose or implied warranty arising out of a course of dealing, custom or usage of trade: all 3M products are warranted to be free of defects in materials and manufacture at the time of shipment and to meet the specifications stated in this Product Bulletin. 3M will replace or refund the price of any 3M materials that do not meet this warranty within the specified time periods. These remedies are exclusive. **In no case shall 3M be liable for any direct, indirect, or consequential damages, including any labor or non-3M materials charges.**

See the Graphics Market Center Warranty Brochure, which gives the terms, additional limitations of the warranty, if any, and limitations of liability.

Graphic Construction Options

Opaque Graphics

Opaque graphics made with imaging media 8522 require an overlaminate and an opaque substrate.



Fabrication

Shop Temperature

Acceptable: 60° to 95°F (15° to 35°C)
Optimum: 65° to 73°F (18° to 23°C)

Shop Humidity

Acceptable: 20% to 80%
Optimum: 45% to 60%

Condition the Media Before Use

These steps are especially important if you are operating outside the conditions recommended under Fabrication, above.

- Leave the media in its original packaging until you are ready to condition and use it.
- The day before you need it, remove the media from the box and remove the plastic.
- Condition the media for 24 hours in the same environment as the printer.

Printer Settings for Optimum Quality

Refer to your Hewlett Packard printer manual for detailed operating instructions.

The quality of a printed image depends on a combination of factors: correct media selection, printing software and raster imaging processor (RIP), shop conditions, etc.

The printers qualified to use this media have print mode options that are programmed specifically for these media. Current charts that show the various modes and printing dpi, and the quality results you can expect are available at www.hp.com under the website's support section. We recommend that you print the same image at all of these settings to determine acceptable print and productivity results.

The highest quality settings are usually desirable for backlit applications.

The correct media selection makes most other necessary adjustments to the printer.

- For the HP DesignJet CP 2000 or 3000 series printers, select the **Opaque Vinyl UV** setting.
- For the HP Designjet 5000 series printers, select the **3M Changeable UV** setting or the **HP Durable Gloss UV** or **HP Colorfast Vinyl** setting.
- For the Z series printers, refer to HP's website or printer manuals.

Note: The HP printer settings lay down less ink per pass, which results in better ink absorption and quicker drying times.

- For the HP DesignJet CP 2000 or 3000 series printers, select the **Opaque Vinyl UV** setting.
- For the HP Designjet 5000 series printers, select the **3M Changeable UV** setting or the **HP Durable Gloss UV** or **HP Colorfast Vinyl** setting.
- For the Z series printers, refer to HP's website or printer manuals.

Note: The HP printer settings lay down less ink per pass, which results in better ink absorption and quicker drying times.

Drying Guidelines

Usually, the media can be laminated within 10 minutes after printing. However, especially in high humidity conditions, we recommend waiting 15 to 30 minutes before laminating.

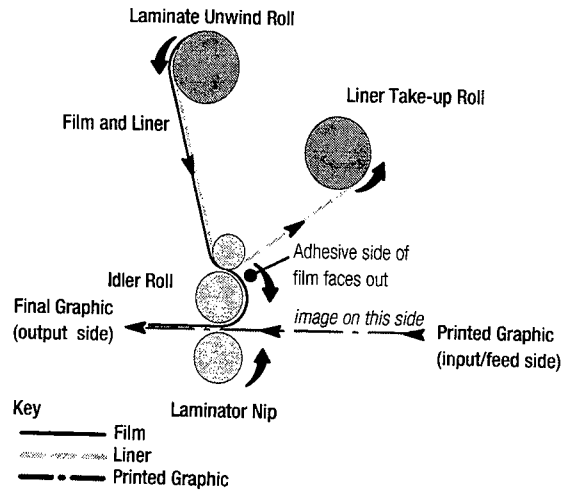
Use care when handling graphics that have not been laminated to avoid scratching and abrasion.

Graphics made with this media and ink combination typically may be wound directly on a take-up roll after printing.

Overlamine

Whether or not you want a warranted graphic, an overlamine is recommended to enhance durability, especially in outdoor applications.

FIGURE 1
Typical Laminator Thread-up



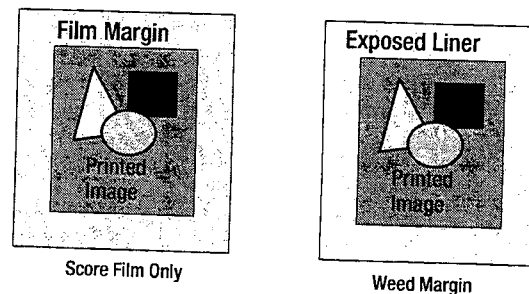
Creating a Laminated Overlap

Creating a laminated overlap helps ensure that the graphic does not peel or lift away from certain banner materials that may be subject to plasticizer migration. This method may also be used for flat, rigid or flexible sign applications.

1. Print the graphic as usual.
2. On all sides of the graphic, score *the film only* to the correct, final graphic dimension *without cutting through the liner*.

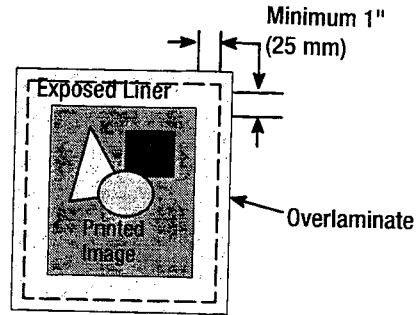
Weed away the excess film, leaving the bare liner exposed around the graphic. See FIGURE 2.

FIGURE 2
Trim and Weed Film Margin Only



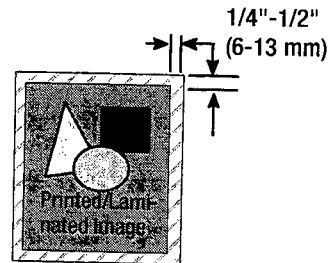
3. Laminate the graphic as usual (see page 5), making sure that at least one inch of the bare liner is covered by the laminate. See FIGURE 3.

FIGURE 3
Apply Overlamine



- Trim the graphic to its final dimensions, making sure to leave a margin of 1/4 to 1/2 inch (6 to 13 mm) laminated liner on all sides that require the laminate overlap. See FIGURE 4.

FIGURE 4
Trim, leaving a margin of
overlaminated Liner



Mounting the Final Graphic

Mounting Methods

Hand

- Thick or rigid graphics
- Removable or positionable adhesive
- Complex sign mounting surface
- Small graphic mounted by 1 person
- Medium to large graphic mounted with 2 people
- Fleet graphics applied directly to the vehicle

Laminator

- Thin or flimsy graphics
- Aggressive mounting adhesive
- Flat sign mounting surface
- Medium to large graphic mounted by 1 person

Procedure

1. Be sure the temperature of the air, graphic and surface to which you mount the graphic is 45° to 95°F (7° to 35°C).
2. Be sure the substrate is clean and dry. Contaminants prevent good adhesion.
3. If your substrate is susceptible to outgassing, treat it according to the manufacturer's recommendations before mounting the graphic. This avoids bubbling that may be unacceptable.
4. For hand lamination only: Put a low friction paper sleeve over a hard plastic squeegee. The sleeve helps prevent scratching the graphic surface.
5. Position the graphic on the substrate, leaving about a 2 inch (50 mm) margin all around the graphic.
6. Apply a 2 inch (50 mm) wide piece of masking tape across the top edge of the graphic.
7. Flip the graphic over. You can roll the graphic for easier handling, if desired.

8. Flip the graphic over. You can roll the graphic for easier handling, if desired.
 9. Strip back some of the liner, starting at the taped edge. Do not allow the adhesive to touch the substrate yet.
 10. For hand lamination only:
 - a. Hold the graphic up with one hand and use the other hand to hold the squeegee.
 - b. Starting in the middle of the taped edge of the graphic, use smooth, overlapping strokes to each side of the graphic.
 - c. Stop immediately if you notice some wrinkling. Lift the wrinkled area and reposition. Then gently squeegee the wrinkle to finish smoothing it.
 - d. Pull back some more liner and continue squeegeeing the graphic. To finish the graphic, trim the substrate to the desired size.
 11. For a laminator only:
 - a. Position the taped edge of the graphic into the laminator nip.
 - b. Start the laminator.
 - c. As the graphic is pulled through the nip, continue pulling off the liner.
 - d. To finish the graphic, trim the substrate to the desired size.
 12. After applying the graphic, resqueegee all edges firmly. Premature lifting of the graphic may occur if the edges are not adequately laminated.
- Unthread the web from the printer and tape the roll closed at the center. It is not necessary to remove the roll from the printer.
 - If the media will not be used for a few days, remove it from the printer and rewrap it. See *Shelf Life, Storage and Shipping* on page 4.

End of Day Protocol

Care and Cleaning of Graphics

Avoid contact between the finished graphic and water or other liquids during production, handling, and application, especially before laminating.

Use a cleaner designed for high-quality painted surfaces. The cleaner must be wet, non-abrasive, without strong solvents, and have a pH value between 3 and 11 (neither strongly acidic nor strongly alkaline.)

Refer to 3M Instruction Bulletin 6.5 for general maintenance and cleaning information.

Always test the substrate for removal before applying the final graphic. Paint that has poor adhesion to the substrate may be pulled off when removing the film. Aged surfaces with oxidation or chalking may leave adhesive residue on the substrate after the film is removed.

If the substrate surface is appropriately sealed, just lift an edge of the graphic and peel it back at a 180 degree angle; lesser angles may leave adhesive residue. No heat or chemicals are required.

Health and Safety



CAUTION

When handling any chemical products, read the manufacturers' container labels and the Material Safety Data Sheets (MSDS) for important health, safety and environmental information. To obtain MSDS sheets for 3M products go to 3M.com/MSDS, or by mail or in case of an emergency, call 1-800-364-3577 or 1-651-737-6501.

When using any equipment, always follow the manufacturers' instructions for safe operation.

Shelf Life, Storage and Shipping

Shelf Life

Total shelf life: 1 year (processed, unprocessed or any combination thereof)

Storage Conditions

- New and partially used rolls. For optimum performance, use the middle of these ranges:
 - Original packaging, including plastic wrap to protect from contamination
 - Use an end plug and tape down the edge to prevent damage if the media is stored upright
 - Relative humidity of 20% to 80%
 - Temperature of 33° to 104°F (0° to 40°C)
 - Away from direct sunlight
- Bring the film to print room temperature before using
- Do not stack unprotected rolls or lay sharp or heavy objects on them.
- Do not lay sharp or heavy objects on unprotected rolls and do not stack them.

Shipping Finished Graphics

Flat, or rolled printed side out on 5 inch (13 cm) or larger core. This helps prevent the liner and, if used, the application tape from popping off.

3M Related Literature

Before starting any job, be sure you have the most recent product and instruction bulletins.

The information in 3M Product and Instruction Bulletins is subject to change. Current Bulletins are available at 3Mgraphics.com. The techniques described in these Bulletins are required when applying a 3M warranted graphic, but are also practical recommendations when using promotional materials for non-warranted graphics. Additional Bulletins may be needed as indicated in the 3M Related Literature section of other 3M components you use.

Bulletin types: PB = Product Bulletin; PB-IB = Product & Instruction Bulletin; IB = Instruction Bulletin

Subject	Type	Bulletin No.
3M™ Scotchcal™ Luster Overlaminate 8519 and 8520	PB	8519/8520
Application, substrate selection, preparation and substrate-specific application techniques	IB	5.1
Application, general procedures for indoor and outdoor dry applications	IB	5.5
Storage, handling, maintenance, removal	IB	6.5
3M Graphics Center Warranty Brochure	go to www.3Mgraphics.com , Warranties	

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Bulletin Change Summary

HP Designjet printer Z6100 and HP 91 Vivera ink systems have been added to the list of compatible printers and inks.

Instruction Bulletin 4.23 has been incorporated into this Bulletin, which is now called Product & Instruction Bulletin 8522.

3M™ Scotchcal™ Instant Dry Translucent Imaging Media 8544, which was shown in Instruction Bulletin 4.23, is obsolete. A backlit graphic option is no longer available.



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Col. Santa Fe, Del. Alvaro Obregón
México, D.F. 01210
52-55-52-70-04-00
Fax 52-55-52-70-22-77

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